ITEM 660.03xx M **TYPE "K" COPPER WATER SERVICE INCLUDING EXCAVATION AND BACKFILL (51 MM AND SMALLER)**

DESCRIPTION

Work consists of the installation of new copper water services or transfer of existing water services as shown on the plans and as directed by the Resident Engineer.

REFERENCES

ANSI/AWWA C800, Underground Service Line Valves and Fittings.

ANSI/AWWA C901, Polyethylene (PE) Pressure Pipe and Tubing for ½-inch through 3-inch, for Water Service.

ASTM B88 - Standard Specification for Seamless Copper Water Tube.

MATERIALS

PIPE AND FITTINGS

Pipe shall be Type K virgin copper tubing conforming to the requirements of ASTM B88 and AWWA C-800, suitable for underground installation. Size of the new tubing shall be same as existing service, with minimum size of 19 millimeters.

Coupling joints for connecting new copper tubing to new and existing corporation stops, corporations or tubing shall be compression type.

BRASS SERVICE COUPLINGS

Material: Fabricated from metal alloy red brass 85-5-5 in accordance with the chemical and mechanical requirements of ASTM B62, with compression inlet and outlet.

Manufacturers

1. Copper to copper, plastic tubing to plastic tubing or plastic tubing to copper:
   a. A.Y. McDonald: MAC-PACK 22 series
   b. Ford: Series C44 pack or grip-joint
   c. Hays: 5615CF or 5615CJ
   d. Jones: J-2609
   e. Mueller: H-15403
2. Copper or plastic tubing to iron pipe:
   a. Ford: Series C45
3. Iron pipe to iron pipe:
   a. Ford: Series C55
4. Female iron pipe thread to copper or plastic tubing:
   a. Ford: Series C14
   b. Hays: 5600CF
   c. Jones: J-2607

Mueller: H-15451

STEEL SERVICE COUPLINGS

Materials-Body: steel, useable length 127 mm (5 inch), gasket-armored, painted shop coat for repairing iron or galvanized pipe.

Manufacturers

1. Iron pipe to iron pipe:
   a. Dresser: Style 90, with armored gaskets

BEDDING, BACKFILL, AND SURFACE RESTORATION

Bedding, backfill and surface restoration materials and method of placement shall conform to the requirements of MCDOT Item Specification 660.06XXXX.

CONSTRUCTION DETAILS

GENERAL

Verify the location and disposition of all water services before beginning work. Ensure that all labor, equipment and materials are on site prior to replacement or transfer of service.

The Monroe County Water Authority (MCWA) shall be notified at least two (2) working days in advance of doing any work. All curb stops are to be operated only by authorized representatives of MCWA.

MCWA must have written approval from the Health Department before any water service transfers to the new main will be allowed.

Prior to any disruption of service, all affected water service customers shall be notified by the CONTRACTOR at least 24 hours in advance of the disruption and if necessary shall be provided with temporary water service.

Records of all new, replaced and transferred water services shall be obtained. Such records shall identify for each service the address and coordinate location of the service, material used, length, depth and size of new copper service, and the location of the corporation stop and curb stop. This information shall be recorded on standard water service cards, obtained from MCWA, and submitted to MCWA's project representative, 475 Norris Drive, Rochester, New York 14610.

Temporary pavement shall be placed on all water service trenches, located within existing paved areas, immediately after backfilling the trench.

INSTALLATION

Pavement saw cutting shall be required prior to all water service work, except in areas of

reconstruction. All street cuts shall be made by a pavement saw and shall conform to the requirements of MCDOT Item 502.5014.

Excavation shall be to a depth that will provide a minimum of 1.5 meters of cover over the service pipe, and a 150 millimeter layer of compacted sand underneath. Excavation shall conform to the requirements of NYSDOT Standard Specifications, Section 206, latest revision.

After verbal notification to consumer that service will be turned off, shut off existing curb stop.

All copper tubing for new services or transfers shall be laid in the trench in a single piece without joints between corporation stops and curb stops, or between curb stops on transfers. Copper service tubing must be continuous from corporation stop to curb stop. If in Engineer's opinion this is not possible, then no service couplings will be allowed beneath any pavement, curbs, gutters, or sidewalks. Polyethylene service tubing will only be allowed on a case by case basis and only after the Engineer provides written approval to contractor.

All existing services shall be replaced from the new main to the street right-of-way line with minimum 25mm copper tubing.

Install all services perpendicular to the main, and in a straight line. No horizontal offsets greater than 610 mm in either direction will be allowed unless approved in writing by the Resident Engineer. If the horizontal offset must be greater than 610 mm, place new curb box directly opposite new corporation and offset service back to existing customer service.

Tubing shall be connected to corporation stops, curb stops and to existing service pipe and stops by using approved and appropriate connection materials. New service line shall extend to include removal of existing curb stop and box.

For connections of 19 mm and 25 mm copper tubing to new or existing corporation stops, gooseneck material downward in such a manner that service material rests firmly on undisturbed soil. Rotate gooseneck slightly to the right (clockwise) of corporation's centerline. Install gooseneck of sufficient length to preclude any possibility of failure due to settlement. Maintain minimum of 1.5 m of cover over service gooseneck.

Install 38 mm and 51 mm corporations at the spring line of the pipe (at approximately 3:00 or 9:00 on the pipe). Install corporations with two 90 brass street ells (iron pipe threads) such that ell attached to corporation will remain stationary while second ell will tighten in the event of settlement. Install a brass female iron pipe thread by compression (copper) adapter on the second ell.

There shall be no kinks, bends, dents or crimps in the new copper tubing.

Upon connection between new and existing service, place curb stop back into the on

position. Release any air in service line by turning on an outside tap or other means as necessary. Confirm that service is operable without any problems prior to proceeding to next service.

Repair any indoor plumbing problems including, but not limited to, plugged meters or faucets, damaged toilet valves, damaged regulator valves, or any other problems on consumer's side such as leaks or plugged lines, etc., as a result of work performed. A qualified plumber shall make all necessary repairs, and all costs associated with repairs borne solely by the CONTRACTOR.

Upon connection to new main, abandon portion of old service still connected to existing main. In the case of a service replacement, this includes complete removal of abandoned curb box and rod.

Repair all leaks that occur on new, existing or abandoned portions of service.

Upon completion of the work and testing service, excavation shall be backfilled and disturbed surface area restored.

TESTING WATER SERVICES

Prior to backfilling the trench, all new water service work which includes all taps, connections, joints, and unions shall be pressure tested under active line pressure in presence of the Resident ENGINEER. All water service pipe and appurtenances shall be made watertight.

METHOD OF MEASUREMENT

Quantity to be measured for payment shall be number of linear meters of new copper tubing installed, as measured along the service line from tap on the main to curb stop, from old curb stop to new curb stop, and to limit of installation.

BASIS OF PAYMENT

GENERAL - ALL ITEMS

Unit price bid shall include cost of: furnishing and installing all copper tubing; pipe specials; compression connections; gasket fittings; joint and connection materials; connecting service to new corporation stops and curb stops where required; connecting to existing service material; verifying location and disposition of services; preparation and submittal of service record information and cards; pavement saw cutting; drilling operations; pressure testing; and furnishing all labor, material and equipment necessary to complete the work.

EXCAVATION, BACKFILL, AND SURFACE RESTORATION

Excavation, rock excavation, furnishing and placing of bedding and select granular

backfill, and surface restoration will be included in the price bid for the item as indicated in the item description.

Payment will be made under:

Item No.	**Item**	**Pay Unit**
660.0303 M	Type "K" Copper Water Service 25 mm Diameter Including Excavation, Backfill, and Surface Restoration	LM
660.0304 M	Type "K" Copper Water Service 51 mm Diameter Including Excavation, Backfill, and Surface Restoration	LM